

What is claimed is:

1. An audio data receiving apparatus, comprising:

a converter converting a digital audio signal into record-formatted audio data; and

an interface transferring, via a bus, the record-formatted audio data to a disk recording/reproducing device without conducting a preparation process for transferring data when a record request is received from the disk recording/reproducing device, wherein the preparation process is specified in a bus standard protocol for a personal computer.

2. The apparatus set forth in claim 1, wherein said bus standard protocol is AT Attachment Packet Interface (ATAPI) protocol.

3. The apparatus set forth in claim 1, further comprising a sampler converting an analog audio signal into the digital audio signal.

4. The apparatus set forth in claim 1, wherein said interface comprises:

a serial-to-parallel converter converting the record-formatted serial data into 8-bit parallel data and outputting 8-bit parallel data with a data writing pulse;

a memory controller sequentially storing the 8-bit parallel data in a memory whenever the data writing pulse is received, and retrieving the stored 8-bit parallel data as 16-bit parallel data and simultaneously generating a transfer-ready signal when a

Sub A1

0047049-07400

predetermined amount of 8-bit parallel data has been stored in the memory; and

a transmitter transmitting the 16-bit parallel data to the disk recording/reproducing device through the bus when the transfer-ready signal is received.

5. An audio data recording apparatus, comprising:

a connector sending/receiving signals through a bus in accordance with a bus protocol compatible with a bus protocol for use in a personal computer;

a recorder modulating audio data received through said connector into recording signals and recording the recording signals in a recording medium; and

a controller controlling the connector to transmit a transfer start signal to a counter part of the bus without sending/receiving packet commands through the bus when a record command is received.

6. The apparatus set forth in claim 5, wherein said bus protocol is AT Attachment Packet Interface (ATAPI) protocol.

7. The apparatus set forth in claim 5, wherein said controller changes a binary level of the transfer start signal for the counter part to start data transfer.

8. The apparatus set forth in claim 7, wherein said controller restores the binary level of the transfer start signal when a record stop is requested.

Sub A2

09617049-071400

Sub A3  
9. A method for sending/receiving audio data through a bus, comprising the steps of:

(a) entering into a data communication mode without conducting a preparation process for transferring data over a bus when a record request is received, wherein the preparation process includes occupying a bus and issuing packet commands;

(b) sending/receiving audio data in the data communication mode; and

(c) stopping the data communication mode when a recording stop request is received;

10. The method set forth in claim 9, wherein in said step (a) includes transferring from a data, a receiving part to a data transferring part, via the bus, a transfer start signal without conducting the preparation process when the record request is received.

11. The method set forth in claim 10, wherein said step (c) discontinues transfer of the transfer start signal.

12. The method set forth in claim 9, further comprising:

(d) interrupting a data transfer operation over the bus in the data communication mode when the step (c) stops the data communication mode.

004720" 6407560

13. The method set forth in claim 9, wherein the packet commands are specified in the AT Attachment Packet Interface (ATAPI) protocol.

14. The method set forth in claim 9, wherein said step (a) simultaneously transmits a transfer start signal and a command requesting start of format conversion of a received audio signal from a data receiving part to a data transferring part.

15. A method for sending/receiving data between two devices through a bus, comprising the steps of:

(a) simultaneously transferring a transfer start signal and a conversion start signal to a data transfer device without conducting a preparation process for transferring data when a record request is received, wherein the preparation process includes occupying the bus and issuing packet commands;

(b) converting an input signal into data streams of pre-determined format when the data transfer device receives the conversion start signal;

(c) checking whether the transfer start signal is received when a predetermined number of data streams are generated; and

(d) transferring the data streams to a receiving device through the bus when step (c) indicates the transfer start signal has been received.

16. The method set forth in claim 15, wherein the bus is compatible with the AT Attachment Packet Interface (ATAPI) bus.

004720" 6407960

Sub All

17. The method set forth in claim 15, wherein said step (a) sends the transfer start signal via the bus and sends the conversion start signal through a signal path different from the bus.

18. The method set forth in claim 15, further comprising:

- (e) receiving the transferred data through the bus; and
- (f) recording the received data.

19. A method of interfacing digital audio data for a rewritable optical disk driver, comprising:

first sending a start signal, signaling to start a data transfer operation, through an AT attachment packet interface (ATAPI) protocol bus;

second sending a conversion start signal, signaling to convert data into a format for transfer over the bus, through a connection other than the bus; and

receiving data through the bus in accordance with the start signal and the conversion start signal.

20. The method of claim 19, wherein the first and second sending steps are performed substantially simultaneously.

21. An apparatus to interface digital audio data for a rewritable optical disk driver, comprising:

a sending interface sending a start signal, signaling to start a data transfer operation, through an AT attachment packet interface (ATAPI) protocol bus;

a controller sending a conversion start signal, signaling to

004720" 64027960

convert data into a format for transfer over the bus, through a connection other than the bus; and

the sending interface receiving data via the bus in accordance with the start signal and the conversion start signal.

22. The apparatus of claim 19, wherein the sending interface and the controller send the start signal and the conversion start signal at substantially a same time.

23. A method of interfacing digital audio data for a rewritable optical disk driver, comprising:

first receiving a start signal, signaling to start a data transfer operation, through an AT attachment packet interface (ATAPI) protocol bus;

second receiving a conversion start signal, signaling to convert data into a format for transfer over the bus, through a connection other than the bus; and

transferring data through the bus in accordance with the start signal and the conversion start signal.

24. The method of claim 23, wherein the first and second receiving steps are performed substantially simultaneously.

25. An apparatus to interface digital audio data for a rewritable optical disk driver, comprising:

a format converter receiving a conversion start signal, signaling to convert data into a format for transfer over the bus, through a connection other than the bus;

a transfer interface receiving a start signal, signaling to start a data transfer operation, through an AT attachment packet interface

09617049-071400

(ATAPI) protocol bus; and

transferring data received from the format converter through the bus in accordance with the start signal and the conversion start signal.

26. The apparatus of claim 25, wherein the format converter and the transfer interface respectively receive the conversion start signal and the start signal at substantially the same time.

09617049.071400  
004420" 6407960